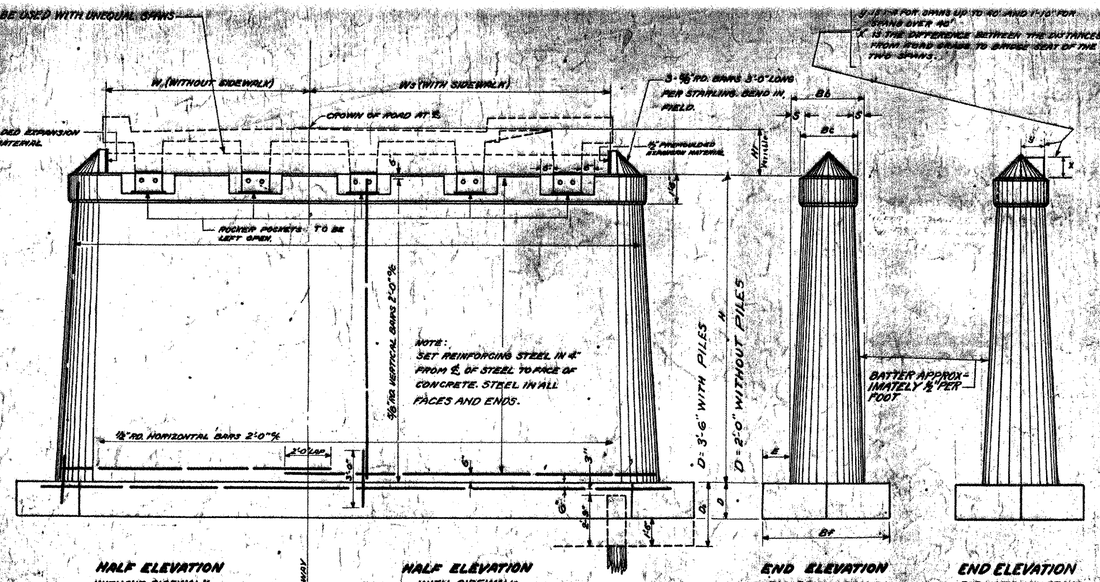
STEP TO BE USED WITH UNEQUAL SPANS

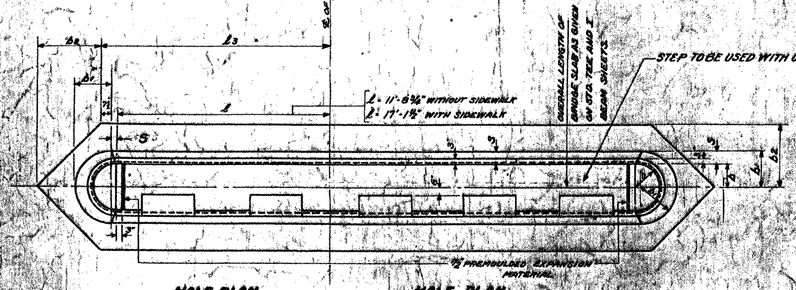


HALF ELEVATION WITHOUT SIDEWALK

HALF ELEVATION WITH SIDEWALK

END ELEVATION FOR EQUAL SPANS

END ELEVATION FOR UNEQUAL SPANS

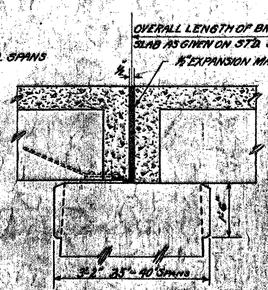


HALF PLAN WITHOUT SIDEWALK

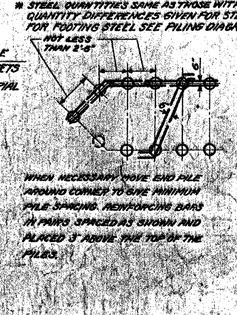
HALF PLAN WITH SIDEWALK

b = 1'-4" FOR SPANS UP TO 40' INCL.
b = 1'-10" FOR SPANS OVER 40'

STEP TO BE USED WITH UNEQUAL SPANS

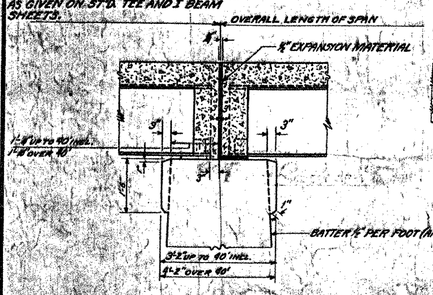


TRANSVERSE SECTION OF PIER
SHOWING 3 BEAM SPANS ONE FIXED END AND ONE EXPANSION END SPANS 33' AND 40'

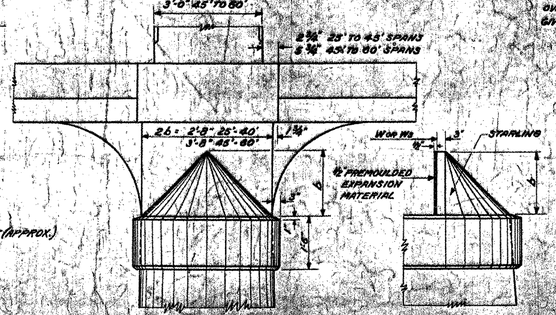


TRANSVERSE SECTION OF PIER
SHOWING TEE BEAM SPANS
ONE FIXED END AND ONE EXPANSION END
SPAN 45'-60'

OVERALL LENGTH OF SUPERSTRUCTURE AS GIVEN ON STD. TEE AND I BEAM SHEETS.



TRANSVERSE SECTION OF PIER
SHOWING 3 BEAM SPANS ONE FIXED END AND ONE EXPANSION END
(SHOWING BOLTS AND BEARING PLATES NOT SHOWN)



END ELEVATION OF PIER

SIDE ELEVATION OF STIRLING

FOR 20' ROADWAY
W = 11'-5¾" (Solid and Cable Rail)
W2 = 16'-11⅝" (Solid Rail)
W1 = ROADWAY ROADWAY TO BRIDGE SEAT (SEE SUPERSTRUCTURE)
℄ = 1'-5"
D = 3'-6" (WITH PILES)
D2 = 2'-0" (WITHOUT PILES)
L = 11'-8¾"
Bc = 26'-5"

11'-7¾" (Ballustrade Rail)
16'-11⅝" (Ballustrade Rail)

Differences in Quantities for 16', 18' & 22' roadways (from quantities given for 20' roadway)

With Piles						Without Piles*			
16'		18'		22'		16'	18'	22'	
R.Steel	Conc.	R.Steel	Conc.	R.Steel	Conc.	Conc.	Conc.	Conc.	H
80	9	40	4	40	4	6	3	3	11'-8"
80	11	40	6	40	6	10	5	5	
88	10	44	5	44	5	8	4	4	13'-6"
88	12	44	6	44	6	10	5	5	
96	11	48	6	48	6	8	4	4	15'-6"
96	14	48	7	48	7	12	6	6	
104	12	52	6	52	6	10	5	5	17'-6"
104	15	52	8	52	8	12	6	6	
112	14	56	7	56	7	12	6	6	19'-6"
112	17	56	8	56	8	14	7	7	
120	15	60	8	60	8	12	6	6	21'-6"
120	19	60	9	60	9	16	8	8	
128	16	64	8	64	8	14	7	7	23'-6"
128	20	64	10	64	10	18	9	9	
136	18	68	9	68	9	16	8	8	25'-6"
136	22	68	11	68	11	18	9	9	

* STEEL QUANTITIES SAME AS THOSE WITH PILES
QUANTITY DIFFERENCES GIVEN FOR STEMS ONLY.
FOR FOOTING STEEL SEE PILING DIAGRAM.

QUANTITIES FOR 20'-0" ROADWAY

Without Sidewalk																																Quantities Added per Sidewalk			
Dimensions										Without Piles Quantities		With Piles																				Without Piles		With Piles	
												No. Piles for Tee Beam						No. Piles for I Beam										Quantities Added					
Span	B_b	S	B_f	L_2	b_1	b_2	Conc.	R. Steel	*25	30	35	40	45	50	55	25	30	35	40	45	50	55	60	Conc.	R. Steel	Concrete	Rein. Steel in Stem	Piles	Conc.	Rein. Steel in Footing	
25'-40'	3'-6"	5"	6'-6"	12'-6½"	1'-5"	3'-5"	45	640								16	16	16	16					14	14	14	16					10		9	120	5	12	130	
45'-60'	4'-6"	5"	7'-6"	12'-6½"	2'-3"	3'-5"	58	640												22	22	25						20	20	20	22	12		11	120	5	15	"	
25'-40'	3'-8"	6"	6'-8"	12'-6½"	1'-10"	3'-8"	52	750								16	16	16	18					14	14	16	16					11		11	140	5	13	"	
45'-60'	4'-8"	6"	7'-8"	12'-6½"	2'-8"	3'-10"	67	750												22	25	25						20	20	22	22	12		13	140	5	15	"	
25'-40'	3'-10"	7"	6'-10"	12'-7½"	1'-11"	3'-5"	60	860								16	16	18	18					14	16	16	18					11		12	160	5	15	"	
45'-60'	4'-10"	7"	7'-10"	12'-7½"	2'-8"	3'-11"	77	860												25	25	28						20	22	22	24	19		15	160	6	18	"	
25'-40'	4'-0"	8"	7'-0"	12'-7½"	2'-0"	3'-6"	68	970								16	18	18	20					16	16	18	18					11		14	180	6	17	"	
45'-60'	5'-0"	8"	8'-0"	12'-7½"	2'-6"	4'-0"	86	970												25	28	28						22	24	24	24	13		17	180	6	21	"	
25'-40'	4'-2"	9"	7'-2"	12'-8"	2'-1"	3'-7"	76	1080								18	18	20	20					16	18	18	20					12		15	200	6	18	"	
45'-60'	5'-2"	9"	8'-2"	12'-8"	2'-7"	4'-1"	97	1080												28	28	31						24	24	25	28	19		19	200	6	22	"	
25'-40'	4'-4"	10"	7'-4"	12'-8½"	2'-2"	3'-9"	84	1190								18	20	20	22					18	18	18	20					12		17	220	6	20	"	
45'-60'	5'-4"	10"	8'-4"	12'-8½"	2'-8"	4'-2"	108	1190												28	31	31						25	25	28	28	14		21	220	6	25	"	
25'-40'	4'-6"	11"	7'-6"	12'-8½"	2'-3"	3'-9"	93	1300								20	20	22	24					20	20	20	22					12		19	240	6	22	"	
45'-60'	5'-6"	11"	8'-6"	12'-8½"	2'-8"	4'-3"	118	1300												31	31	34						28	28	28	31	14		24	240	6	28	"	
25'-40'	4'-8"	12"	7'-8"	12'-9"	2'-4"	3'-10"	102	1410								20	22	24	24					22	22	22	22					13		21	260	6	24	"	
45'-60'	5'-8"	12"	8'-8"	12'-9"	2'-10"	4'-4"	130	1410												31	34	34						28	31	31	31	14		26	260	6	30	"	

* COLUMN HEADINGS REFER TO EQUAL SPAN LENGTHS EACH SIDE OF PIER

FOR STEEL QUANTITIES SEE PILING DIAGRAM

NOTES:
PILES TO BE SPACED NOT LESS THAN 2'-6" c. to c.
FOR H DIMENSIONS SEE STANDARD TEE AND I BEAM SUPERSTRUCTURE SHEETS.
FOR GENERAL NOTES AND REFERENCES SEE S.B.2.
ALL PIERS DESIGNED FOR 2 EQUAL SPANS AS NOTED IN COLUMN HEADINGS
CLEAR WIDTH OF SIDEWALK IS 5'-0"
ALL CONCRETE TO BE CLASS C.

QUANTITIES FOR 20'-0" ROADWAY

No. Piles	Piling Diagram and Steel Plan	Detail of Steel	Steel Quantities
34	11 Equal Spaces @ 2'-6" = 27'-6" c. to c. of Outside Piles; 2 Spirals each side @ 3" pitch	⅝"ø No. 2 Pc 13'-0"	
24		No. Req'd. 40 Pc 6'-3" 8'-3" Tot. Len. 6 Pc 13'-0" 18'-0"	710
31 / 23	10 Equal Spaces @ 2'-6" = 25'-0" c. to c. of Outside Piles; 2 Spirals each side @ 3" pitch; do	¾"ø No. 1 Pc 18'-3" 3 Stirrups No. 3 Pc 6'-3" 8'-3" Tot. Len. 36 Pc 6'-3" 8'-3" SAME	660
28 / 20	9 Equal Spaces @ 2'-6" = 22'-6" c. to c. of Outside Piles; do	No. Req'd. 32 P2 6'-6" 8'-6" SAME	620
25 / 18	8 Equal Spaces @ 2'-6" = 20'-0" c. to c. of Outside Piles; do	28 P3 6'-9" 8'-9" SAME	580
22 / 16	7 Equal Spaces @ 2'-6" = 17'-6" c. to c. of Outside Piles; do	24 P4 6'-6" 8'-6" SAME	520
20 / 14	6 Equal Spaces @ 2'-6" = 15'-0" c. to c. of Outside Piles; do	20 P5 5'-6" 7'-6" SAME	440

USE ALL PILES FOR MAXIMUM NUMBER
USE ONLY PILES MARKED ● FOR MINIMUM NUMBER

ADDITIONAL PILES PER SIDEWALK

Piling Diagram and Steel Plan	Detail of Steel	Additional Reinf. Steel
6 / 5 — 5 @ 3'-0" = 15'-0" c. to c. of Outside Piles; do	¾"ø No. 1 Pc 18'-3" 23'-3"; 4 Stirrups No. 3 Pc 6'-3" 8'-3" Tot. Len. 4 Pc 18'-3" 23'-3"	130

USE ALL PILES FOR MAXIMUM NUMBER.
USE ONLY PILES MARKED ● FOR MINIMUM NUMBER

PILING PLAN FOR 16'-18' AND 22' ROADWAY

FOR 16' AND 22' ROADWAYS.
USE SAME NUMBER OF PILES AS SHOWN FOR 20' ROADWAY, NOT MORE THAN 22 PILES SHALL BE USED FOR 16' ROADWAY SPANS 25' TO 40', NOR 31 PILES FOR SPANS 45' TO 60'.
FOR 18' ROADWAYS.
USE PILING DIAGRAM SHOWING NEXT SMALLER NUMBER OF PILES TO THAT LISTED FOR 20' ROADWAY EXCEPT THAT WHERE 25 PILES ARE LISTED FOR 20' ROADWAY USE NOT LESS THAN 14 PILES SHALL BE USED FOR ANY PIER.

ROUND NOSE STANDARD PIERS FOR SQUARE TEE AND I BEAM BRIDGES

CORRECT: A. D. Bishop
BRIDGE ENGINEER

Received Office No. 7/11/32 M.P.
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Checked by A.D.B. 7-11-30
Tender S.P. No. 3

LEICESTER
BRF 0160 (3)S
REFERENCE SHEET 1
SHEET 89 OF 90